SUMMARY.

Total number of species, varieties and forms observed on the marsh	164
Plants generally affecting saline habitats	34
Plants which have appeared since the reclamation began	130

From these figures it will be seen that the plants of saline habit constitute a little over 20 per cent and the invaders something above 79 per cent of the vegetation as reconstituted. It may be of interest to note that more than half of the present vegetation of the marsh belongs to four families, while the remainder belongs to many scattered families, the figures being as follows:

Gramineae	20+ per cent
Cyperaceae	6+ " "
Polygonaceae	6+ " "
Compositae	21+ " "
All the other families	45 " "

CAMBRIDGE, MASSACHUSETTS.

THE IDENTITY OF CIRCAEA LATIFOLIA AND THE ASIATIC C. QUADRISULCATA.

M. L. FERNALD.

THE common Enchanter's Nightshade of dryish woods in the eastern United States and southeastern Canada is generally treated as identical with *Circaea lutetiana* L. of Europe. Yet a comparison of the two plants as well as of accurate descriptions and plates shows that they differ in many important characters.

Typical *Circaea lutetiana* of Europe has the stems closely pubescent throughout; the stolons thick and almost tuber-like; the leaves broadly ovate; the petals broadly obovate, longer than broad and obtuse to rounded at base; and the mature fruit without corruga-

tions The American plant which passes as *C. lutetiana* has, on the other hand, the stems glabrous below the inflorescence or at most remotely pubescent; the stolons filiform; the leaves oblong-ovate; the petals broadly obovate, as long as or longer than broad and wedge-shaped at base; and the mature fruit with 3–5 corrugations on each face and larger than in the European plant. Differing in all these characters and geographically quite isolated, it is apparent that the American plant should not be confused with *C. lutetiana*.

That the two were not identical was apparently recognized by the older botanists, for as early as 1700 Tournefort had a "*Circaea Canadensis, latifolia, flore albo*," [1] which formed the basis of the Linnean *C. lutetiana, β. canadensis*.[2] This plant referred by Linnaeus, as a variety, to *C. lutetiana* was not further defined by him and, in view of the comparatively narrow leaf of the American plant, the Tournefortian description, "latifolia," copied by Linnaeus, forms an unfortunate basis for separation. Yet our American plant was long known as var. *canadensis*,— by Michaux, Pursh, Nuttall, Torrey and others. Even as early as 1756, however, John Hill had taken up the Tournefortian *Circaea canadensis, latifolia, flore albo* of North America as *C. latifolia* [3] which he described at length, with the leaves "broad and oblong," as opposed to "oval" in his description of *C. lutetiana* and "broad and short" in his *C. minima* (*C. alpina*), and the "seed-vessel. . . .large" as contrasted with "seed-vessels. . . .small" in *C. lutetiana*. By these two essential characters, oblong leaves and larger fruits, Hill was clearly describing the American representative of *C. lutetiana*, as he was when he emphasized the tall plant by stating that "The stalk is round, upright, firm, hairy, and two feet high," although the character "hairy" appears only at the summit of the stem, along the axis of the inflorescence. To be sure, the name *C. latifolia* found no recognition in *Index Kewensis*; but there is hardly a question that our American representative of *C. lutetiana* should be called *C. latifolia* Hill.

In studying the Old World species of *Circaea* a characteristic plant of eastern Asia,—Manchuria, Amur, and Japan — has been found which, in aspect as well as in all the technical characters of glabrous stem, outline of leaf, shape of petal and corrugation of fruit, exactly

[1] Tourn. Inst. i. 301 (1700).
[2] L. Sp. Pl. i. 9 (1753).
[3] Hill, Brit. Herb. 138 (1756).

coincides with the common Alleghanian plant. No stolons of the Asiatic plant have been examined but so accurately does it coincide with our plant in all the other crucial points that there can be hardly a question of their identity. The Asiatic species which seems clearly to agree with ours is *C. quadrisulcata* (Maxim.) Franchet & Savatier,[1] based upon *C. lutetiana*, var. *quadrisulcata* Maximowicz,[2] a plant originally described from Amur and distinguished by its 4-sulcate fruit, its glabrous stem, and its lance-ovate leaves. The identification of this plant of eastern Asia with our Alleghanian woodland species is interesting as adding still another to the large group of genera and species — *Caulophyllum*, *Podophyllum*, *Liriodendron*, *Polygonum virginianum*, etc.— which are common to these two isolated areas.

GRAY HERBARIUM.

WEED GROWTH AND UNUSUAL RAINFALL.

J. Y. BERGEN.

THE unusual rainfall throughout the central and northeastern states during the summer just past has greatly influenced most kinds of vegetation. In the course of a long-continued, hand to hand contest with weeds in a garden of moderate size the writer was led to note some differences between the relative abundance and luxuriance of growth of certain weeds this year and in ordinary summers. The rainfall in and near Boston during July of this summer (1915), 8.85 inches, has been equaled only twice in 98 years, the July average for that whole period being about 3.57 inches.[3] The August rainfall this summer is 5.63 inches, while the 98-year average for the month is about 4.01 inches, making the rainfall for the two months almost double the usual amount. Farther away from the coast the precipitation has in many localities been much in excess of the values for Boston just cited.

[1] Franch. & Sav. Enum. Pl. Jap. i. 169 (1875).
[2] Maxim. Prim. Fl. Amur. 106 (1859).
[3] 1818–1870 observations at Roxbury; 1871–1915 observations of U. S. Weather Bureau in Boston.